LIPATOV, Yu.S.

Dielectric relaxation in the surface layers of polymethyl methacrylate and polystyrene. Vysokom. soed. 7 no.8:1430-1435 Ag '65. (MIRA 18:9)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.

L 2984-66 EWT(m)/EPF(c)/EWP(j)/T RPL WW/RM

ACCESSION NR: AP5022612 UR/0190/65/007/009/1626/1632
66.095.26+678.62

AUTHORS: Tsybul'ko, A. Ya.; Lipatova, T. E.; Lipatov, Yu. S.

TITLE: Copolymerization of an unsaturated novolac ester with styrene

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 9, 1965, 1626-1632

TOPIC TAGS: polymer, polystyrene, graft copolymer, copolymerization, thermomechanical property, ester, styrene, novolac, infrared spectroscopy

ABSTRACT: The detailed study of copolymerization of novolac ester with styrene, the physical and chemical properties of the copolymer, and the reaction mechanism and reactivity of reagents are described. The reaction is both theoretically and practically interesting since copolymerization with participation of oligomers is unusual and also leads to products capable of solidification. Preparation of modified novolac (novolac methacrylate) was described by the authors earlier (Vysokomolek. soyed., 6, 1055, 1964). Copolymerization was conducted in a dimethylformamide solution, in N_2 atmosphere and in sealed glass ampules, by heating the reagents for 30 hours at 70C and using azodiisobutyronitrile as an

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L 2984-66 3
ACCESSION NR: AP5022612

initiator. The ratio of reactants was varied, and its effect upon the composition of the product was measured by turbidimetric titration and infrared spectroscopy. It was found that graft copolymers of polystyrene with the oligomeric molecules were formed, and the frequency of branching was a function of the reaction mixture composition. The reactivities of the double bonds of styrene and modified novolac during copolymerization were calculated using equations of A. D. Abkin and S. S. Medvedev (Zh. fiz. khimii, 21, 1269, 1947). It is assumed that the low reactivity of methacrylic groups is due to steric factors which also affect the polymerization process. Study of thermomechanical properties of the graft polymers has shown that they can solidify upon heating. Small amounts of polystyrene grafted onto the modified novolac have a large effect upon increasing the flow temperature. Orig. art. has: 3 tables and 5 figures.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii, AN BSSR (Institute for General and Inorganic Chemistry, AN BSSR)

SUBMITTED: 26Oct64 ENCL: 00 SUB CODE: OC, GC
NO REF SOV: 006 OTHER: 002

Card 2/2

LIPATOV, Yu.S.; SERGEYEVA, L.M.

Some regularities of the adsorption of macromolecules from solutions. Koll. zhur. 27 no.2:217-223 Mr-Ap '65.
(MIRA 18:6)

1. Institut obshchey i neorganicheskoy khimii AN BSSR, Minsk.

SERGEYEVA, L.M.; LIPATOV, Yu.S.

Adsorption of vapors in the system polymer - filler. Koll.zhur. 27 no.3:435-440 My-Je '65. (MIRA 18:12)

1. Institut obshchey i neorganicheskoy khimii AN BSSR, Minsk.
Submitted Dec. 2, 1963.

L 22599-66 EWT(m)/EWP(j)/T/ETC(m)-6 LIP(c) WW/GS/RM

ACC NR: AT6006245 SOURCE CODE: UR/0000/65/000/000/0056/0063

AUTHOR: Lipatov, Yu. S. (Doctor of chemical sciences)

ORG: Institute of Chemistry of High Molecular Compounds AN UkrSSR, Kiev (Institut khimii vysokomolekulyarnykh soyedineniy AN UkrSSR)

TITLE: Some physicochemical aspects of the mechanism of reinforcing plastics by fillers

SOURCE: AN UkrSSR. Modifikatsiya svoystv polimerov i polimernykh materialov (Modification of the properties of polymers and polymeric materials). Kiev, Naukova dumka, 1965, 56-63

TOPIC TAGS: solid mechanical property, plastic strength, polymer, filler, plasticity

ABSTRACT: The mechanism of plastic-filler interaction (which results in improved mechanical properties of filled plastics) is discussed on the basis of data in the literature and the authors' previously published studies. The reinforcing function of fillers on plastic is explained in terms of the special orientation of polymer chains attached to the filler surface, the firmness of polymer adhesion to the filler surface, and the chemical interaction between the polymer and the filler surface.

SUB CODE: 07/ SUBM DATE: 06Oct65/ ORIG REF: 021/ OTH REF: 002

Card 1/1

LIPATOVA, D.L.; DZHEMS-LEVI, G.Ye.

Standardization of projective transformations. Uch. zap. Mosk. un. no.181:235-240 '56. (MLRA 10:4)
(Transformations (Mathematics)) (Nomography (Mathematics))

LIPATOVA, D.L.

Limit of a converging sequence of measurable operators. Uch.zap. Ped.inst.Gerts. 218:343-345 '61. (MIRA 14:10)
(Sequences (Mathematics)) (Operators (Mathematics))

LIPATOVA, F. A.

Lipatova, F. A. - "Nomographing the Equations of Three Variables by the Method of Their Equalized Points with Identical Transformation of the Left-Hand Side of the Equations into the Masseau Determinant." Min Education RSFSR. Moscow Oblast Pedagogical Inst. Moscow, 1956 (Dissertation for the Degree of Candidate in Physicomathematical Sciences).

So: Knizhnaya Letopis', No. 10, 1956, pp 116-127

88900

S/044/60/000/007/057/058
C111/C222

16.6500

AUTHOR: Lipatova, F.A.

TITLE: The solution of the problem of K.Ya.Zalts

PERIODICAL: Referativnyy zhurnal. Matematika, no.7, 1960, 228. Abstract no.8325. Uch.zap.Kaliningradsk.gos.ped.in-t, 1958, vyp.5, 129-143

TEXT: It is shown that for the representability of the left-hand side of the equation

$$F_1(x)C_1(y,z)+F_2(y)C_2(x,z)+F_3(z)C_3(x,y) = 0$$

by a Masso-determinant, i.e. for

$$F_1C_1+F_2C_2+F_3C_3 = \begin{vmatrix} F_1(x) & f_1(x) & g_1(x) \\ F_2(y) & f_2(y) & g_2(y) \\ F_3(z) & f_3(z) & g_3(z) \end{vmatrix}$$

it is necessary and sufficient that one of the three conditions of compatibility is satisfied for the system

Card 1/3

The solution of the problem...

$$f_2g_3-f_3g_2 \equiv C_1,$$
$$f_3g_1-f_1g_3 \equiv C_2,$$
$$f_1g_2-f_2g_1 \equiv C_3,$$

where the functions $C_1 \not\equiv 0$, $C_2 \not\equiv 0$, $C_3 \not\equiv 0$. I.e. one of the three following conditions is satisfied:

1) $$\frac{\frac{\partial C_1}{\partial z} C_2 - \frac{\partial C_2}{\partial z} C_1}{C_3} = \psi_3(z);$$

2) $$\frac{\frac{\partial C_3}{\partial y} C_1 - \frac{\partial C_1}{\partial y} C_3}{C_2} = \psi_2(z);$$

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S/044/60/000/007/057/058
C111/C222

The solution of the problem...

$$3)\quad \frac{\frac{\partial c_2}{\partial x} c_3 - \frac{\partial c_3}{\partial x}}{c_1} = \psi_1(x).$$

The solution of the problem is given under the assumption that $F_i \neq$ const ($i=1,2,3$). A numerical example is given.

[Abstracter's note: The above text is a full translation of the original Soviet abstract.]

Card 3/3

88899

S/044/60/000/007/056/058
C111/C222

16.650

AUTHOR: Lipatova, F.A.

TITLE: A new method for the nomogramming of the polynomials $M(x,y,z)$ for which $\frac{\partial^3 M(x,y,z)}{\partial x \partial y \partial z} = 0$

PERIODICAL: Referativnyy zhurnal. Matematika, no.7, 1960, 227-228. Abstract no.8324. Uch.zap.Kaliningradsk.gos.ped.in-ta, 1958, vyp.5, 144-155

TEXT: The proposed method consists in the fact that the sum of the first three terms of the right side of the identity $M(x,y,z) = M_1(y,z)+M_2(x,z)+M_3(x,y)+F_1(x)+F_2(y)+F_3(z)+S$ is represented as a Masso-determinant and the conditions of this representation are reduced to the conditions of compatibility for the system

$$\begin{aligned} f_2 g_3 - f_3 g_2 &\equiv M_1(y,z), \\ f_3 g_1 - f_1 g_3 &\equiv M_2(x,z), \\ f_1 g_2 - f_2 g_1 &\equiv M_3(x,y). \end{aligned} \qquad (1)$$

Card 1/2

S/044/60/000/007/056/058
C111/C222

A new method for the nomogramming...

Then the representation of the polynomial $M(x,y,z)$ is considered by a Masso-determinant. It is shown that this representation assumes the following conditions: 1) Compatibility of systems (1), 2) compatibility of the systems (1) and (2), where (2) has the form

$$\begin{aligned} ag_3 - bf_3 &\equiv F_3(z), \\ df_2 - cg_2 &\equiv F_2(y), \\ (c-a)g_1 + (b-a)f_1 &\equiv F_1(x), \\ ad-bc &\not\equiv S. \end{aligned} \qquad (2)$$

The investigation of the compatibility of the systems (1) and (2) is carried out for several cases.

[Abstracter's note: The above text is a full translation of the original Soviet abstract.]

Card 2/2

LIPATOVA, G.

The structure of starch thickenings. Zhur. prikl. khim. 29 no.12: 1881-1883 D '56. (MLRA 10:6)

1. Kafedra fizicheskoy khimii Moskovskogo tekstil'nogo instituta.
(Starch) (Cellulose) (Adsorption)

CA LIPATOVA, G.V.

Heat of solution and aggregation of low-molecular compounds. S. M. Lipatov and G. V. Lipatova. *Kolloid Zhur.* 14, 52-6(1952); cf. *ibid.* 8, 113(1946). — The heat Q of soln. of Na oleate in H_2O is -5 cal./g. at 10° and -11 at 80°; this change is due to the gradual "melting" of the intermol. bonds at higher temp. The Q in 90% EtOH is -11 at 10° and -15 between 30° and 60°; in the latter temp. range Q is const. because all the bonds are broken below 30°. In 80% EtOH Q is independent of temp. The sols of dialyzed dyes increase slowly at low, and rapidly at higher temp. Thus, sols (g./l. in H_2O) of Chloramine Yellow (I) is 5.0, 7.1, and 13.1 at 10°, 31°, and 50°; of Congo Red (II) 6.5, 7.8, and 18.1 at same temps., and of Chrysophenine (III) 12.0 16.0 31.0 and 2.14 at 5°, 10°, 31°, and 50°. The theoretical heat of soln. Q' was calcd. from $(d\ln K/dT) = Q'/RT^2$. The expt. Q of I was equal to Q' at 25°; for II, $Q = Q'$ below 20°, whereas Q' at higher temp. was 2-3 times as great as Q. The Q' of III was greater than Q at all temps. At 25°, Q was 3370, 1180, and 3310 cal./mole for I, II, and III, resp. The Q' is too great, since dK/dT is abnormally great at higher temp. as a result of the enhanced flexibility of the dye mols.

J. J. Bikerman

LIPATOV, S.M. [Lipatau, S.M.] [deceased]; BEKCHANTNOVA, I.K. [Biaschasnava, I.K.]; LIPATOVA, G.V. [Lipatava, H.V.]

Phase demixing in the system polymer - polymer - solvent. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.4:56-60 '62. (MIRA 18:4)

LE, B.; IZMAYLOV, R.I.; URMANCHEYEV, F.A.; LIPATOVA, I.P.

Determination of the individual hydrocarbon composition of Tatar petroleums. Report No. 4: Ligroine obtained from Romashkino Deposit crudes. Izv. AN SSSR. Otd. khim. nauk no. 1:109-114 Ja '61. (MIRA 14:2)

1. Khimicheskiy institut im. A.Ye. Arbuzova Kazanskogo filiala AN SSSR.

(Ligroine)

LE, B.; IZMAYLOV, R.I.; URMANCHEYEV, F.A.; LIPATOVA, I.P.; KHASHAYEV, S.-Kh.G.; LAMANOVA, I.A.; BUKHARAYEVA, R.G.

Individual hydrocarbon composition of the petroleums of Tataria. Report No.5: Ligroine from the petroleum of the Bavly Oil Field. Izv. AN SSSR. Otd.khim.nauk no.7:1310-1315 Jl '61. (MIRA 14:7)

1. Khimicheskiy institut im. A.Ye. Arbuzova Kazanskogo filiala AN SSSR.
(Bavly region--Petroleum) (Ligroine)

LE, B.; URMANCHEYEV, F.A.; LIPATOVA, I.P.; BUKHARAYEVA, R.G.; LAMANOVA, I.A.

Determination of the individual hydrocarbon composition of oils of the Tatar A.S.S.R.. Report No.6: Ligroin obtained from petroleum of the Shugurovo oil field. Izv.AN SSSR.Otd.khim. nauk no.10:1858-1863 O '61. (MIRA 14:10)

1. Kazanskiy institut organicheskoy khimii AN SSSR.
(Shugurovo--Petroleum--Analysis) (Ligroin)

URMANCHEYEV, F.A.; LE, B.; BUKHARAYEVA, R.G.; LAMANOVA, I.A.; LIPATOVA, I.P.

Determination of the individual hydrocarbon composition of gasolines in oils of the Tatar A.S.S.R. Report No.7: Gasoline from Shugurovo oil fields. Izv.AN SSSR.Otd.khim.nauk no.11:2063-2065 N '61. (MIRA 14:11)

1. Institut organicheskoy khimii AN SSSR, Kazan'.
(Shugurovo--Gasoline)

LE, B.; KASHAYEV, S.-Kh.G.; ZINYATOV, M.Z.; LIPATOVA, I.P.; LAMANOVA, I.A.

Raman spectra of normal paraffinic hydrocarbons C_{11} - C_{17} and their spin-lattice relaxation time. Khim.i tekh.topl.i masel 8 no.11: 22-24 N '63. (MIRA 16:12)

1. Kazanskiy institut organicheskoy khimii AN SSSR i Kazanskiy gosudarstvennyy pedagogicheskiy institut.

LIPATOVA, I.P.

Vanadyl chloride solutions in organic solvents studied by the methods of infrared adsorption and electron paramagnetic resonance spectra. Dokl. AN SSSR 164 no.4:849-851 O '65. (MIRA 18:10)

1. Institut organicheskoy khimii AN SSSR, Kazan'. Submitted March 12, 1965.

L 16933-65 EWT(m)/EPF(c)/T Pr-4 WE

ACCESSION NR: AP5002835 S/0062/64/000/008/1484/1488

AUTHOR: La, B.; Urmancheyev, F. A.; Lipatova, I. P.; Bukharayeva, R. G.; Lomanova, I. A.

TITLE: Determination of individual hydrocarbon composition of petroleum of Tataria. Report 8. Ligroin of Romashkinskiy deposit (Al'met'yevskaya area petroleum)

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1964, 1484-1488

TOPIC TAGS: crude petroleum, hydrocarbon

Abstract: The individual and group composition of Ligroin (150-200°) of petroleum from the Romachinskiy Deposit, Al'met'yevskaya Area, was investigated. 46 aromatic and hydroaromatic hydrocarbons were found. The 146-205° fraction (n_D^{20} = 1.4362; d_4^{20} = 0.7778, sulfur content 0.108%) was separated by silica gel adsorption into a naphthene-praraffin protion NPCh-1 (83.8%; n_D^{20} = 1.4246; d_4^{20} = 0.7627) and aromatic hydrocarbons A_1 (14.8%; n_D^{20} = 1.4980; d_4^{20} = 0.8747). A catalysate was obtained from NPCh-1 (yield 88.7%; n_D^{20} = 1.4330; d_4^{20} = 0.7707), comprised of 86% naphthane-paraffin portion NPCh-2 and 11.7% aromatic hydrocarbons A_2 (8.7% of ligroin and 9.1% in recalculation to converted six-member cyclanes). It was found that the

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L 16933-65

ACCESSION NR: AP5002835

ligroin contains 36.6% praaffin and 17.6% pentamethylene hydrocarbons. About 30% of the naphthene-paraffin portion constitutes fractions II, VIII, and XII, which are chiefly paraffin hydrocarbons of normal structure (normal nonane, normal decane, and normal undecane). Orig. art. has 5 tables.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR, Kazan' (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 17Dec62 ENCL: 00 SUB CODE: FP

NO REF SOV: 008 OTHER: 002 JPRS

Card 2/2

SHEYNKER, Yu.N.; POSTOVSKIY, I.Ya.; BEDNYAGINA, N.F.; SENYAVINA, L.B.; LIPATOVA, L.F.

Equilibrium between the tetrazole and azide forms in benzothiazole-tetrazole. Dokl. AN SSSR 141 no.6:1388-1390 D '61. (MIRA 14:12)

1. Ural'skiy politekhnicheskiy institut im. S.M.Kirova i Institut khimii prirodnykh soyedineniy AN SSSR. Predstavleno akademikom M.I.Kabachnikom.
(Benzothiazole) (Tetrazole) (Azides)

LIPATOVA, L.F.; POSTOVSKIY, I.Ya.

Certain amides of sarcolysine. Zhur.ob.khim. 32 no.4:1062-1064 Ap '62. (MIRA 15:4)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova. (Sarcolysine)

POSTOVSKIY, I.Ya., LIPATOVA, L.F.

Derivatives of acenaphthene containing a bis(β-chloroethyl)-amino group. Zhur.ob.khim. 32 no.4:1067-1068 Ap '62. (MIRA 15:4)

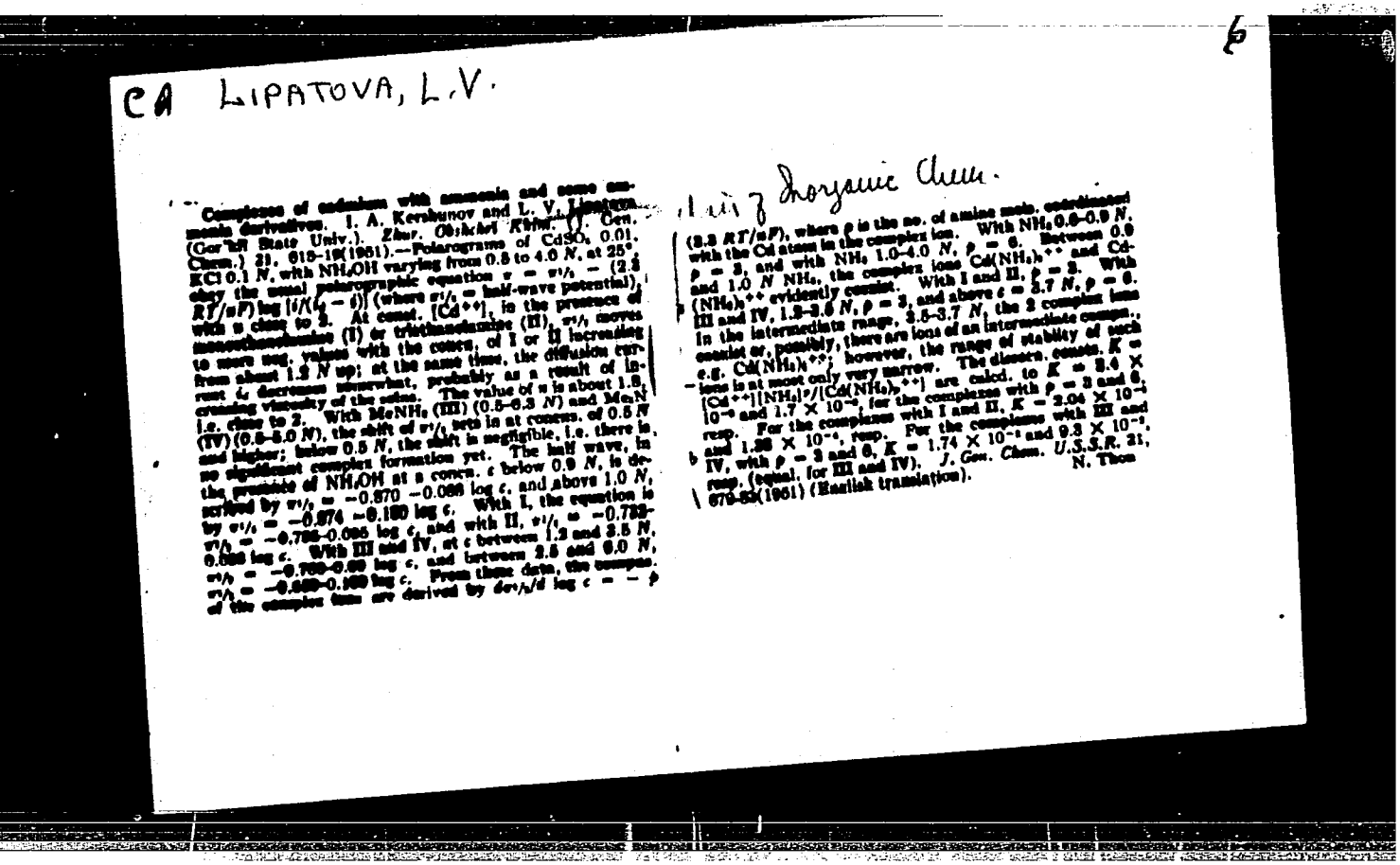
1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Acenaphthene)

TYURENKOVA, G.N.; LIPATOVA, L.F.; POSTOVSKIY, I.Ya.

Collector action of certain substituted 2-mercaptobenzimidazoles.
TSvet.met. 36 no.2:77-80 F '63. (MIRA 16:2)
(Flotation—Equipment and supplies)
(Mercapto compounds)

LIPATOVA, L.S., aspirant

Role of rational nutrition of children of school age in the prevention of dental caries. Trudy TSIU 64:11-16 '61.
(MIRA 17:5)



CA LIPATOVA, L.V.

Complexes of cadmium with ammonia and some ammonia derivatives. I. A. Kovbunov and L. V. Lipatova (Gor'kii State Univ.). *Zhur. Obshchei Khim.* 21, Gen. Chem.) 21, 615-19(1951).—Polarograms of $CdSO_4$ 0.01, KCl 0.1 *N*, with NH_4OH varying from 0.5 to 4.0 *N*, at 25°, obey the usual polarographic equation $e = e_{1/2} - (2.3 RT/nF) \log [i/(i_d - i)]$ (where $e_{1/2}$ = half-wave potential), with n close to 2. At const. $[Cd^{++}]$, in the presence of monoethanolamine (I) or triethanolamine (II), $e_{1/2}$ moves to more neg. values with the concn. of I or II increasing from about 1.5 *N* up; at the same time, the diffusion current i_d decreases somewhat, probably as a result of increasing viscosity of the solns. The value of n is about 1.9, i.e. close to 2. With $MeNH_2$ (III) (0.5–6.5 *N*) and Me_2N (IV) (0.5–5.0 *N*), the shift of $e_{1/2}$ sets in at concns. of 0.5 *N* and higher; below 0.5 *N*, the shift is negligible, i.e. there is no significant complex formation yet. The half wave, in the presence of NH_4OH at a concn. c below 0.9 *N*, is described by $e_{1/2} = -0.570 - 0.086 \log c$, and above 1.0 *N*, by $e_{1/2} = -0.574 - 0.180 \log c$. With I, the equation is $e_{1/2} = -0.726 - 0.086 \log c$, and with II, $e_{1/2} = -0.733 - 0.086 \log c$. With III and IV, at c between 1.2 and 3.5 *N*, $e_{1/2} = -0.760 - 0.60 \log c$, and between 2.5 and 6.0 *N*, $e_{1/2} = -0.820 - 0.160 \log c$. From these data, the compns. of the complex ions are derived by $de_{1/2}/d \log c = -p$ (2.3 RT/nF), where p is the no. of amine mols. coördinated with the Cd atom in the complex ion. With NH_3 0.6–0.9 *N*, $p = 2$, and with NH_3 1.0–4.0 *N*, $p = 6$. Between 0.9 and 1.0 *N* NH_3, the complex ions $Cd(NH_3)_4^{++}$ and $Cd(NH_3)_6^{++}$ evidently coexist. With I and II, $p = 2$. With III and IV, 1.2–3.6 *N*, $p = 2$, and above $c = 3.7$ *N*, $p = 6$. In the intermediate range, 3.6–3.7 *N*, the 2 complex ions coexist or, possibly, there are ions of an intermediate compn., e.g. $Cd(NH_3)_4^{++}$; however, the range of stability of such ions is at most only very narrow. The dissocn. consts. $K = [Cd^{++}][NH_3]^p/[Cd(NH_3)_p^{++}]$ are calcd. to $K = 2.4 \times 10^{-5}$ and 1.7×10^{-6}, for the complexes with $p = 2$ and 6, resp. For the complexes with I and II, $K = 2.04 \times 10^{-4}$ and 1.36×10^{-6}, resp. For the complexes with III and IV, with $p = 2$ and 6, $K = 1.74 \times 10^{-4}$ and 9.3×10^{-6}, resp. (equal. for III and IV). *J. Gen. Chem. U.S.S.R.* 21, 679-85(1951) (English translation). N. Thon

LIPATOVA, L.V. (Leningrad)

Streptococcal anginas, analogues of scarlet fever. Vest.otorin. 22 no.2:19:22 Mr-Ap '60. (MIRA 13:12)

1. Iz kafedry infektsionnykh zabolevaniy u detey (ispolnyayushchiy obyazannosti zav. - dotsent A.T.Kuz'micheva) Leningradskogo pediatricheskogo meditsinskogo instituta i detskoy infektsionnoy bol'nitsy Sverdlovskogo rayona.
(STREPTOCOCCAL INFECTIONS in inf. & child)
(TONSILLITIS pathol.)
(SCARLET FEVER pathol.)

LIPATOVA, L.V.

Catamnestic observations on children who have had streptococcus angina. Vop. okh. mat. i det. 6 no.11:49-52 N '61. (MIRA 14:12)

1. Iz kafedry infektsionnykh zabolevaniy u detey (zav. - dotsent A.T.Kuz'micheva) Leningradskogo pediatricheskogo instituta (dir. - kand. med.nauk Ye.P. Semenova) i Detskoy infektsionnoy bol'nitsy Sverdlovskogo rayona Leningrada (glavnyy vrach - zasluzhennyy vrach RSFSR N.A. Nikitina).
(STREPTOCOCCAL INFECTIONS) (TONSILS--DISEASES)

USSR/Farm Animals. Rabbits. Q-3

Abs Jour: Ref Zhur - Biol., No. 22, 1958, 101225

Author : Kim, M.M., Lipatova, N.A.

Inst : Scientific Research Institute of Rabbit and Fur Animal Husbandry

Title : Norms for Feeding Rabbits with Vitamin A.

Orig Pub: Byul. nauchno-tekhn. inform. No.-i. in-ta krolikovodstva i pushn. zverovodstva, 1958, No. 2,13-14

Abstract: One hundred and forty young rabbits (1½-2 months) were employed in experiments carried out by the Scientific Research Institute of Rabbit and Fur Animal Husbandry. The rabbits were divided into 7 groups (20 animals in each group). During the entire experimental period, each animal in a group received the following average amounts of

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USSR/Farm Animals. Rabbits. Q-3

Abs Jour: Ref Zhur - Biol., No. 22, 1958, 101225

vitamin A (in m units) daily: in the 1st group, 655; in the 2nd group, 3,068; in the 3rd group, 1,577; in the 4th group, 5,304; in the 5th group, 7,395; in the 6th group, 7,120; and in the 7th group, 22,476. According to these various groupings, live weights of baby rabbits at 2-4 months of age did not vary greatly; at 4-4.5 months, respective weights (in g) amounted to: 2,360; 2,295; 2,380; 2,095; 2,170; 2,133; and 2,435.

Card 2/2

LIPATOVA, Nina Ivanovna; STEPANOVA, Ol'ga Mikhaylovna; KHARAS, K.K., nauchn. red.; ISH, N.N., red.; TOKER, A.M., tekhn. red.

[Industrial training of cooks] Proizvodstvennoe obuchenie povarov; metodicheskoe posobie. Moskva, Proftekhizdat, 1963. 187 p. (MIRA 16:9)

1. Zamestitel' direktora po uchebnoy rabote professional'no-tekhnicheskogo uchilishcha No.10 Leningrada (for Lipatova). 2. Starshiy master proizvodstvennogo obucheniya professional'no-tekhnicheskogo uchilishcha No.10 Leningrada (for Stepanova).

(Cooking schools)

S/078/61/006/011/007/013
B101/B147

AUTHORS: Morozov, I. S., Toptygina, G. M., Lipatova, N. P.

TITLE: Investigation of compounds formed by titanium trichloride with chlorides of alkali metals and ammonium chloride

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 11, 1961, 2528-2535

TEXT: A special problem of producing titanium metal from chloride melts by electrolysis is studied. Conditions under which compounds of $TiCl_3$ with MeCl (Me = Cs, Rb, K, Na, NH_4) form, the composition of these compounds, and their solubility in HCl are examined. These compounds which formed in aqueous solution were compared with those forming in salt melts. In the systems $TiCl_3$ - MeCl - H_2O saturated with $TiCl_3$ and MeCl at 0°C, no interaction could be determined visually. When saturating the solutions with HCl gas, light-green precipitations deposited which were analytically identified as pentachloro-aquotitanates ($Cs_2TiCl_5H_2O$, $Rb_2TiCl_5H_2O$, $(NH_4)_2TiCl_5H_2O$, $K_2TiCl_5H_2O$). They have a high hygroscopicity

Card 1/3

Investigation of compounds formed by...

and are attacked by O_2. The potassium compound immediately decomposes in the air while the sodium compound does not form. Birefringence is characteristic of the Cs-, Rb-, and NH_4 compounds:

Compound	N_1	N_2
$Cs_2TiCl_5H_2O$	1.678 ± 0.002	1.645 ± 0.002
$Rb_2TiCl_5H_2O$	1.682 ± 0.001	1.638 ± 0.003
$(NH_4)_2TiCl_5H_2O$	1.694 ± 0.002	1.664 ± 0.002

Solubility of pentachloro-aquotitanates (% of $TiCl_3$) for ~44 % HCl is 0.35 for the Cs compound, 0.26 for the Rb compound, 0.67 for the ammonium compound, and 1.50 for the K compound. With decreasing HCl concentration, solubility of pentachloro-aquotitanates increases with simultaneous decomposition. In the solid phase, alkali chlorides and (for the Cs compound) $TiCl_3 \cdot 6H_2O$ occur besides the complex compound. In dilute HCl, only the mixtures of alkali- and titanium chlorides precipitate. Thermo-

Investigation of compounds formed by...

graphic and X-ray analyses proved that H_2O of pentachloro-aquotitanates is inside the coordination sphere of the complex. On heating, water is separated. Temperatures: 270°C for the Cs compound; 212°C for the Rb compound; 116°C for the NH_4 compound, and 112°C for the K compound. In hydrochloric solution, titanium has the coordination number 6. The compounds found in anhydrous systems by other researchers do not form under the conditions described. A paper by M. V. Kamenetskiy (Tsvetnyye metally, 2, 39 (1958)) is mentioned. There are 4 figures, 6 tables, and 14 references: 10 Soviet and 4 non-Soviet. The reference to the English-language publication reads as follows: F. V. Schossberger. Ind. Eng. Chem., 51 (5), 157 (1959).

SUBMITTED: December 22, 1960

Card 3/3

S/078/61/006/011/008/013
B101/B147

AUTHORS: Morozov, I. S., Toptygina, G. M., Lipatova, N. P.

TITLE: Thermographic and X-ray analyses of compounds formed from titanium trichloride with chlorides of alkali metals and ammonium chloride

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 11, 1961, 2536-2544

TEXT: In a previous paper (Zh. neorg. khimii, 6, 2528 (1961)), the authors synthesized the pentachloro aquotitanates of Cs, Rb, NH_4, and K. In the present paper, they report on 1) the synthesis of pentachloro titanates of Cs, Rb, NH_4, and K; 2) the powder patterns of pentachloro aquotitanates and pentachloro titanates, and 3) the thermal analysis of these compounds with Kurnakov's pyrometer. Results: 1) The temperatures at which aquo compounds separate H_2O are: 270°C for $Cs_2TiCl_5H_2O$, 212°C for $Rb_2TiCl_5H_2O$, 116°C for $(NH_4)_2TiCl_5H_2O$, and 112°C for $K_2TiCl_5H_2O$. The compounds Cs_2TiCl_5, Rb_2TiCl_5, $(NH_4)_2TiCl_5$, and K_2TiCl_5

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were obtained by 6-8 hr heating in HCl stream under slow temperature elevation from 250 to 350°C with the Cs compound, from 200 to 300°C with the Rb compound, and from 100 to 150°C with the NH_4 and K compounds. The light-green color of the initial compounds changed: into olive-green with Cs and Rb compounds, and gray with the K compound. The NH_4 compound remained light-green. 2) The powder patterns of these compounds are shown in Fig. 1. They differ from those of pentachloro aquotitanates, which are also given. Lines of components do not occur in either of the two powder patterns. The X-ray data of K_2TiCl_5 differ from those of P. Ehrlich et al. (Z. anorg. Chem. 299, 213 (1959)) obtained by another method of synthesis. X-ray analysis reveals that the crystal structure is changed by removing H_2O from inside the coordination sphere of the complex whereas the skeleton formed by heavy atoms remains almost unchanged. Ti has the coordination number 6. 3) Due to the low stability of the compounds, the thermographic analysis was conducted in an inert gas stream. It showed: (a) that all aquotitanates separated water at the given temperature. At a further temperature elevation, interaction

between free H_2O and Ti compounds caused side reactions by which deciphering of the thermographs was rendered difficult. (b) Pentachloro titanates have two phases, one of which, $TiCl_3$, is disproportionated into $TiCl_2$ and $TiCl_4$. NH_4 of the NH_4 compound is decomposed, and titanium nitride forms. A paper by M. V. Kamenetskiy (Tsvetnyye metally, 2, 39 (1958)) is mentioned. V. G. Kuznetsov is thanked for advice, and Z. V. Popova for assisting with the X-ray analysis. There are 2 figures, 3 tables, and 25 references: 12 Soviet and 13 non-Soviet. The three most recent references to English-language publications read as follows: K. Komareck, P. Herasymenko. J. Electrochem. Soc., 105, 216 (1958); F. V. Schossberger. Ind. Eng. Chem., 51, 157 (1959); H. P. Klug, E. Kummer, A. Leroy. J. Amer. Chem. Soc., 70, 3064 (1948).

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: February 24, 1961
Card 3/3

MOROZOV, I.S.; LIPATOVA, N.P.; SIMONICH, A.T.

Thermal and tensimetric studies of the system $NbCl_5$ - $ZrCl_4$ - KCL. Zhur.neorg.khim. 8 no.1:172-176 Ja '63. (MIRA 16:5)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova AN SSSR.

(Chlorides) (Thermal analysis) (Vapor pressure)

LIPATOVA, N.P.; MOROZOV, I.S.

Compounds of niobium oxychloride with alkali metal chlorides and ammonium chloride. Zhur. neorg. khim. 10 no.2:429-436 F '65. (MIRA 18:11)

1. Submitted Oct. 15, 1963.

LIPATOVA, N.P.; MOROZOV, I.S.

X-ray diffraction examination of pentachlorooxyniobates of alkali metals and ammonium. Zhur.neorg.khim. 10 no.12: 2817-2819 D '65. (MIRA 19:1)

Lipatova, N. Ya

ALEKSEYEV, M.A.; ASKNAZIY, A.A.; ZOTOV, A.I.; LIPATOVA, N.Ya.

Certain characteristics of the formation of complex conditioned motor reactions in man. Zh. vys. nerv. deiat. 5 no.6:773-782 N-D '55. (MLRA 9:3)

1. Leningradskiy nauchno-issledovatel'skiy institut fizicheskoy kul'tury.

(REFLEX, CONDITIONED, conditioned motor complex reactions in man, mechanism of form)

MAYOROV, F.P.; PAVLOV, B.V.; LIPATOVA, N.Ya.

Changes in the higher nervous activity of dogs under the effect of X-irradiation of the cervical section of the vegetative nervous system. Trudy Inst.fiziol. 5:79-102 '56. (MLRA 10:1)

1. Laboratoriya fiziologii i patologii vysshey nervnoy deyatel'nosti. Zaveduyushchiy - F.P.Mayorov.
(X RAYS--PHYSIOLOGICAL EFFECT) (NERVOUS SYSTEM)

LIPATOVA, M.Ya.; MAYOROV, F.P.; PAVLOV, B.V.

Effect of total body irradiation on the higher nervous activity in dogs. Trudy Inst. fiziol. 6:310-321 '57. (MIRA 11:4)

1. Laboratoriya fiziologii i patologii vysshey nervnoy deyatel'nosti (zaveduyushchiy F.P. Mayorov)
(NERVOUS SYSTEM) (X RAYS--PHYSIOLOGICAL EFFECT)

LIPATOVA, N.Ya.; MAYOROV, F.P.

Studying the effect of total-body X irradiation on the higher nervous activity in dogs. Trudy Inst.fiziol. 8:70-76 '59.
(MIRA 13:5)

1. Laboratoriya fiziologii i patologii vysshey nervnoy deyatel'nosti (zaveduyushchiy - F.P. Mayorov) Instituta fiziologii im. I.P. Pavlova AN SSSR.

(X RAYS--PHYSIOLOGICAL EFFECT) (CONDITIONED RESPONSE)

L 54032-65 EWT(l)/EWT(m)/EWP(i)/EPR/EWP(t)/EWP(b) Ps-4 IJP(c) JL

ACCESSION NR: AP5013521 UR/0076/65/039/005/1108/1111
541.8

AUTHOR: Bogoyavlenskiy, A. F.; Belov, V. T.; Vagina, I. A.; Lipatova, N. Ye. 28 27 B

TITLE: Hydration of anodic oxide film on aluminum in aqueous solutions of inorganic salts 4 27

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 5, 1965, 1108-1111

TOPIC TAGS: aluminum oxide, hydration, anodic oxide film

ABSTRACT: The volume of hydrogen formed by interacting water vapor and calcium hydride was measured to determine the water content of anodic oxide films filled with water at 95°C in sodium dichromate, sulfate, and phosphate solutions (10^{-4} to 1 mol/ℓ). In the order of their effect on hydration of the oxide film, the anions are: $H_2PO_4^- > HCrO_4^- > SO_4^{2-}$. When the films are filled in phosphate solutions, the quantity of the sorbed phosphate ion increases with the concentration of the latter in the solution, and the water content decreases. In dichromate solutions, the water content of the filled film depends only slightly on the solution concentra-

Card 1/2

L 54032-65
ACCESSION NR: AP5013521

tion, but the water content increases with rising concentration. In sulfate solutions, the water content of the film increases with the concentration of the solution, and the sorption of the sulfate ion either promotes or does not interfere with the adsorption of water. Differences in filling conditions have a pronounced effect on the state of the surface of the anodic film; the sorption of anions and the hydration of the film are variously affected. Orig. art. has: 1 figure.

ASSOCIATION: Kazanskiy aviatsionnyy institut (Kazan Aviation Institute)

SUBMITTED: 12Dec63 ENCL: 00 SUB CODE: GC

NO REF SOV: 012 OTHER: 006

Card 2/2

LIPATOVA, O.A.

Some results of observations made at Irkutsk to determine the total ozone content of the atmosphere. Trudy GGO no.141:80-82 '63. (MIRA 17:4)

LIPATOVA, P.K., dotsent

Clinical aspects and treatment of rheumatic polyarthritis with penicillin. Vrach.delo no.6:651-653 Je '57. (MLRA 10:8)

1. Kafedra fakul'tetskoy terapii L'vovskogo meditsinskogo instituta (nauchnyy rukovoditel' - prof. T.T.Glukhen'kiy)
(PENICILLIN) (JOINTS--DISEASES) (RHEUMATIC FEVER)

LIPATOVA, P.K., dots.

Features of the mechanism of decompensation and compensation in respiratory and cardiac insufficiency. Vrach.delo no.8:785-789 Ag '58 (MIRA 11:8)

1. Kafedra fakul'tetskoy terapii, L'vovskogo meditsinskogo instituta.
(PULMONARY EMPHYSEMA)
(BLOOD VOLUME)
(HEART FAILURE)

LIPATOVA, P.K., dotsent

Compensatory factors in pulmonary emphysema. Vrach. delo no.4: 427-430 Ap '59. (MIRA 12:7)

1. Kafedra fakul'tetskoy terapii L'vovskogo meditsinskogo instituta.
(EMPHYSEMA, PULMONARY)

LIPATOVA, P.K., dotsent

Activity of some respiratory ferments of the blood in cardiovascular and cardiopulmonary insufficiency. Vrach.delo no.9:947-951 S '59. (MIRA 13:2)

1. Klinika fakul'tetskoy terapii L'vovskogo meditsinskogo instituta. (ENZYMES) (CARDIOVASCULAR SYSTEM--DISEASES) (LUNGS--DISEASES)

LIPATOVA, P.K.

Influence on stomach function of some physical methods of treatment (diathermy, novocaine electrophoresis, and paraffin applications. Vop. kur., fizioter. i lech. fiz. kul't. 26 no.1:27-31 '61. (MIRA 14:5)

1. Iz kafedry fakul'tetskoy terapii L'vovskogo meditsinskogo instituta (dir. - prof. L.N.Kuzmenko).

(STOMACH--DISEASES) (DIATHERMY) (NOVOCAINE)
(ELECTROPHORESIS) (PARAFFINS--THERAPEUTIC USE)

LIPATOVA, P.K., dotsent

Quantity of the circulating blood in pulmonary and cardiac insufficiency. Nauch.trudy L'vov.obl.terap.ob-va no.1:189-193 '61. (MIRA 16:5)

1. Kafedra fakul'tetskoy terapii lechebnogo fakul'teta L'vovskogo meditsinskogo instituta (zav. kafedroy - prof. S.F. Oleynik).
(EMPHYSEMA, PULMONARY) (PULMONARY HEART DISEASE)
(BLOOD VOLUME)

LIPATOVA, P.K., dotsent

Activity of catalase in cardiovascular and pulmo-cardiac insufficiency. Nauch.trudy L'vov.obl.terap.ob-va no.1:207-211 '61.
(MIRA 16:5)

1. Kafedra fakul'tetskoy terapii lechebnogo fakul'teta L'vovskogo meditsinskogo instituta (zav. kafedroy - prof. S.F. Oleynik).
(CATALASE) (EMPHYSEMA, PULMONARY)
(PULMONARY HEART DISEASE)

LIPATOVA, P.K., dotsent; KRUT'YEVA, L.K., vrach

Artificial nitrogen baths in the treatment of hypertension. Nauch. trudy L'vov.obl.terap.ob-va no.1:280-283 '61. (MIRA 16:5)

1. L'vovskaya oblastnaya bal'neologicheskaya bol'nitsa (glavnyy vrach - Ye.F. Solyakina) i kafedra fakul'tetskoy terapii lechebnogo fakul'teta L'vovskogo meditsinskogo instituta (zav. kafedroy - prof. S.F. Oleynik).
(HYPERTENSION) (NITROGEN--THERAPEUTIC USE) (BATHS, MEDICATED)

LIPATOVA, T. E.

USSR/ Chemistry-- Petroleum Technology Synthetic Elastomers 21 Jan 51

"Polymerization of Isobutene to High-Molecular Products," Acad A. F. Topchiyev, Ya M. Paushkin, T. E. Lipatova

"Dok Ak Nauk SSSR" Vol LXXVI, No 3, pp 415-418

Isobutene can be polymerized to diisobutene which is later hydrogenated to isooctane. It can also be polymerized by means of chain reaction to products having high mol wt. In chain reaction, activity of catalysts with reference to deg of polymerization achieved is as follows: $BF_3 > C_6H_5OCH_3 . BF_3 > H_3O.BF_3 > H_3PO_4 . BF_3 > (C_2H_5)_2O.BF_3$.

Activity of catalysts is different with ref to the stepwise reaction resulting in low polymers: $H_3PO_4.BF_3 > H_2O.BF_3 > H_2SO_4 + BF_3 > BF_3 > (R_1)_2O.BF_3$. Solvent in which polymerization is carried out has effect on deg of polymerization. Copolymerization of isobutene with n-butene or propene was also investigated.

178T12

LIPATOVA, T. E.

21 Oct 52

USSR/Chemistry - Elastomers, Polymerization

"INitiation Mechanism in the Catalytic Polymerization of Unsaturated Compounds," A. P. Gantmakher, S. S. Medvedev, Corr Mem, Acad Sci USSR, T. E. Lipatova

"Dod Ak Nauk SSSR" Vol 86, No 6, pp 1109-1111

A conclusion drawn by P. H. Plesch, M. Polanyi, H. A. Skinner, A. S. Evans, and G. W. Meadows is found to be incorrect. These authors claim that in the catalytic polymerization of isobutene in the liquid state or in hexane solus with $TiCl_4$ and BF_3 catalysts at low temps, the addn of H_2O, CCl_3COOH, etc., is necessary in order that the reaction may proceed. This is disputed in the present work: It is shown that by raising either the temp or the dielec const of the solvent, catalytic polymerization of unsatd compds can be made to proceed in the presence of aprotonic acids ($SnCl_4$, $AlCl_3$, $TiCl_4$, and others) without the addn of H_2O, CCl_3COOH or other substances acting on the catalyst under formation of protonic acids.

PA 234T25

Dissertation: "Investigation of Carbon Copolymerization of Unsaturated Compounds." Cand Chem Sci, Order of Labor Red Banner Sci Res Physicochemical Inst imeni L. Ya. Karpov 17 May 54. Vechernyaya Moskva, Moscow, 7 May 54.

SO: SUM 284, 26 Nov 1954

LIPATOVA, T. E.

USSR/Chemistry - Catalytic polymerization

Card 1/1 Pub. 22 - 22/49

Authors : Lipatova, T. E.; Cantmakher, A. R.; and Medvedev, S. S. Memb. Corresp. of Acad. of Sc., USSR

Title : Catalytic copolymerization of unsaturated compounds

Periodical : Dok. AN SSSR 100/5, 925-928, Feb 11, 1955

Abstract : The kinetics of catalytic copolymerization of isoprene-styrene, isoprene-alpha-methylstyrene systems over $SnCl_4$ catalysts was investigated to determine the copolymerization constants for these systems. The dependence of the copolymerization rate upon the composition of the basic mixture and the molecular weights of the homologous copolymers were determined. The ion mechanism of catalytic polymerization in the presence of an $SnCl_4$ catalyst is explained. Eight references: 6 USA and 2 USSR (1944-1955). Table; graphs.

Institution : .....

Submitted : July 3, 1954

AUTHORS: Lipatova, T. E., Gantmakher, A. R., Medvedev, S. S. SOV/76-32-9-13/46

TITLE: The Catalytic Copolymerization of Unsaturated Compounds (Sovmestnaya kataliticheskaya polimerizatsiya nenasyshchennykh soyedineniy) II. The Copolymerization of Isoprene and α-Methyl Styrene (II. Sovmestnaya polimerizatsiya izoprena s α-metilstirolom)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 9, pp 2029 - 2034 (USSR)

ABSTRACT: These compounds were polymerized in an ethyl chloride solution at 0°C using tin (IV) chloride as a catalyst. The composition of the copolymers formed was determined from the volume decrease during the polymerization and by means of infra-red spectroscopy. The spectra are reproduced in figures 1,2, and 3. The molecular weights were determined by the osmotic method (Table 2). Diagrams show the course of the polymerization of α-methyl styrene alone (Fig 5) and of the copolymerization of isoprene and α-methyl styrene. The work shows that three components, isoprene, α-methyl styrene, and a product of copolymerization with inner

Card 1/2

double bonds take part in the polymerization reactions. Steric factors are important in the reaction between the tertiary carbonium ion and monomers. α-methyl styrene is considerably more reactive than isoprene. The initial reaction rate in the polymerization of the α-methyl styrene is decreased by the introduction of isoprene into the system. This is explained by the fact that various complex monomer-catalysts are formed. This formation reduces the concentration of the complex formed by the tin (IV) chloride with α-methyl styrene, which is the more active of the two monomers in initiating carbonium polymerization. There are 7 figures, 2 tables, and 2 references, 2 of which are Soviet.

ASSOCIATION: Fiziko-khimicheskiy institut im.L.Ya.Karpova, Moskva (Moscow Physical-Chemical Institute imeni L.Ya.Karpov)

SUBMITTED: April 4, 1957

17(3)

AUTHORS: Emanuel', N. M., Corresponding Member, AS USSR, Lipchina, L. P., Pelevina, I. I., Lipatova, T. E.

SOV/20-124-5-56/62

TITLE: The Selective Inhibition of the Activity of Reduction-Oxidation Enzymes in Tumoral Cells When Acted Upon With Inhibitors of Chain Reactions (Izbiratel'noye podavleniye aktivnosti okislitel'no-vosstanovitel'nykh fermentov v opukholevykh kletkakh pri vozdeystvii ingibitorov tsepnykh reaktsiy)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 5, pp 1157-1159 (USSR)

ABSTRACT: Since many years the idea of a selective inhibition of fermentative processes in tumoral cells, as a rational principle in cancer chemotherapy, focuses the interest of the scientists (Ref 1). The first two authors (Ref 2) proved an inhibition and a retrogression of leucosis in mice under the action of non toxic inhibitors of the oxidative chain reactions (butyl-oxy-anisole, ionone, propyl gallate)(Ref 2). There were reasons (the radical mechanism of the reduction-oxidation processes) for assuming that the inhibition mentioned in the title is one of the reasons of the tumor inhibiting effect of the mentioned substances. This disturbs the formation processes of some energy-rich compounds which are necessary for the

intense biosynthesis in the neoplastic growth. In the present paper results could be obtained which confirm the above assumption. The authors investigated enzymes of the succinoxidase system. The ascitic cancer of Ehrlich (Erlikh) in mice, leucosis of black mice (line C-57, strain LA), acridine sarcoma of mice and the Braun-Pirs tumor of rabbits served for the experiments. Cells of the ascitic cancer as well as tumoral tissues of other new formations reduced to small pieces were incubated for 30 minutes in 0.75, 0.15 and 0.075% propyl gallate solution. These concentrations inhibit the activity of succine dehydrogenase in the cells of all tumors investigated (Figs. 1, 2). The activity of this enzyme is not suppressed in healthy liver and spleen cells by propyl gallate solutions of 0.15 and 0.075% (Figure 3). Incubation in a 0.75% solution is, however, inhibiting. This inhibition is reversible in afflicted as well as in sound cells. The differences in the propyl gallate effect on the reduction-oxidation processes in normal and tumoral cells are probably due to a different permeability of the cells and their components (e.g. mitochondria)

to propyl gallate. Thus, propyl gallate has a selective effect on tumoral cells in certain concentrations. This is expressed by the inhibition of the activity of dehydrogenases which participate in various reduction-oxidation processes as well as of cytochromoxidase. The thus influenced cells loose their implantation power. There are 3 figures and 6 references, 5 of which are Soviet.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR
(Institute of Chemical Physics of the Academy of Sciences, USSR)

SUBMITTED: November 25, 1958

86330

S/190/60/002/012/019/019
B017/B078

15.8109 2209

AUTHOR: Lipatova, T. E.

TITLE: On the Possibility of Hardening Unsaturated Polyesters With Titanium Tetrachloride

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 12, p. 1882

TEXT: The hardening of polydiethyleneglycolmaleate with styrene and of polyacrylate esters in the presence of titanium tetrachloride has been studied. Polydiethyleneglycolmaleate and styrene were used in a ratio of 1:1. The polymerizates thus obtained were insoluble and did not swell in alcohol-benzene mixtures. When kept in benzene for a few hours, they swell. By hardening of polyacrylate esters, soluble polymerizates of approximately 50 % were obtained. After 18 hours of polymerization polymerizates soluble in acetone were formed, polymers insoluble in benzene, acetone, and styrene, but swelling in benzene were obtained after 48 hours. It has been found that titanium tetrachloride can cause the hardening of polydiethyleneglycolmaleate with styrene and of polyacrylate esters. There are 2 Soviet references.

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86330

On the Possibility of Hardening Unsaturated Polyesters With Titanium Tetrachloride

S/190/60/002/012/019/019
B017/B078

SUBMITTED: June 22, 1960

Card 2/2

LIPATOVA, T.E.

Some problems in the kinetics of the telomerization reaction.
Dokl.AN BSSR 4 no.4:164-167 Ap '60. (MIRA 13:10)

1. Institut obshchey i neorganicheskoy khimii AN BSSR. Predstavleno akademikom AN BSSR B.V. Yerofeyevym.
(Polymerization)

89585

S/190/61/003/002/003/012
B130/B202

15.8101

AUTHORS: Lipatova, T. E., Lipatov, Yu. S., Tutayeva, N. L.

TITLE: Effect of the grafting of polystyrene on the properties of orientated polyethylene

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 2, 1961, 184-190

TEXT: The authors attempted to modify the polyethylene properties by means of grafting. The polyethylene film washed in benzene and dried in the vacuum was orientated by elongation to 435-460% of its initial length. The elongated film was 0.004-0.0044 cm thick. The purified inhibited freshly distilled styrene was grafted in the vacuum (10^{-3} mm Hg) in a quartz ampoule at 25°C under the ultraviolet light of a ПРК-2 (PRK-2) lamp according to a method by G. Oster (Ref. 9 see below). Benzophenone (3% solution in benzene) was used as sensitizer. Before grafting the films were immersed into the benzene solution for 15 minutes. Subsequently, benzene was evaporated in the vacuum. Birefringence of the dry film was by 5% less than before treatment. To avoid the homopolymerization of styrene, first the film was exposed, and then styrene was added in the vacuum. The authors studied the

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89585

S/190/61/003/002/003/012
B130/B202

Effect of the grafting ...

birefringence of the grafted specimens by means of the ПКС-56 (PKS-56) polariscope polarimeter as well as the temperature dependence of shrinkage. Birefringence has a maximum in the case of 7% polystyrene, it is strongly reduced at 9.2%, and begins to increase again at 12.3% to attain a maximum at 18.3%. Grafting inhibits shrinkage of polyethylene on heating. The present studies and the changes of Δn as depending on the polystyrene added indicate that grafting takes place in the submicroscopic cavities formed due to shrinkage. V. A. Kargin is mentioned. There are 6 figures, 1 table, and 13 references: 9 Soviet-bloc and 4 non-Soviet-bloc. The reference to English language publication reads as follows: G. Oster, H. Moroson, J. Polymer Sci., 34, 4/9, 1959.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN BSSR (Institute of General and Inorganic Chemistry, AS BSSR)

SUBMITTED: June 14, 1960

Card 2/2

LIPATOVA, T.E.; TUTAYEVA, N.L.

Effect of the grafting of styrene on the double refraction of oriented polyethylene. Dokl.AN BSSR 5 no.1:12-14 Ja '61. (MIRA 14:2)

1. Institut obshchey i neorganicheskoy khimii AN BSSR. Predstavleno akademikom AN BSSR M.M.Pavlyuchenko.
(Polyethylene--Optical properties) (Styrene)

LIPATOVA, T.E.; SKOPYNINA, I.S.; LIPATOV, Yu.S.

Polymerization of styrene in the presence of the glass fiber treated by titanium tetrachloride. Vysokom.soed. 3 no.12:1877 D '61. (MIRA 15:3)

(Styrene) (Polymerization) (Glass fibers)

45155

S/020/63/148/002/028/037
B117/B186

AUTHORS: Lipatova, T. E., Berlin, A. A.

TITLE: Carbonium polymerization of polyacrylic acid esters

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 2, 1963, 353-356

TEXT: The carbonium polymerization of polyacrylic acid esters in vacuo was studied at 20 ± 0.1°C in the presence of ~0.4 moles/l titanium tetrachloride. Formation and properties of the following β-polymers were investigated: МГФ-9 (MGF-9) dimethacrylate(bis-triethylene glycol)-phthalate, ТМГФ-11 (TMGF-11) tetramethacrylate(bis-glycerin)-phthalate, and МАФ-2 (MDF-2) dimethacrylate-diethylene glycolphthalate. MDF-2 yielded the largest amount of β-polymer (up to 40%), and TMGF-11 yielded the lowest (5-8%). β-polymers are able to convert spontaneously into infusible three-dimensional polymers, in air as well as in vacuo. Their properties differ considerably from those of three-dimensional polymers obtained by radical polymerization of polyacrylic acid ester. The analysis of IR spectra and thermo-mechanical studies showed that the three-

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Carbonium polymerization of ...

dimensional polymers obtained by carbonium polymerization are unsaturated. MGF-9, TMGF-11, and MDF-2 type β-polymers are suitable for the production of elastic coatings for glass, metal and ceramics, which are stable against numerous aggressive media. These polymers, which harden under the action of atmospheric oxygen, do not require the use of hardeners. From concentrated solutions of β-polymers in mixed solvents fibers can be formed which cross-link in air and assume a three-dimensional structure after being shaped and stretched. There are 3 figures and 1 table.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk BSSR (Institute of General and Inorganic Chemistry of the Academy of Sciences BSSR); Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

PRESENTED: January 18, 1962, by V. N. Kondrat'yev, Academician

SUBMITTED: January 15, 1962

LIPATOVA, T.E.; BUDNIKOVA, V.A.; LIPATOV, Yu.S.

Interaction of polymers with fillers. Part 5: Effect of the conditions of depositing a polymer on glass fiber and the method of treating the glass fiber on the properties of the polymer. Vysokem.soed. 4 no.9:1398-1403 S '62. (MIRA 15:11)

1. Institut obshchey i neorganicheskoy khimii AN Belorusskoy SSR.

(Glass fibers)

LIPATOV, Yu.S.; LIPATOVA, T.E.; VASILENKO, Ya.P.; SERGEYEVA, L.M.

Interaction between polymers and fillers. Part 7: Glass transition point and packing densities of filled polystyrene and polymethyl methacrylate. Vysokom.soed. 5 no.2:290-295 F '63. (MIRA 16:2)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.
(Polymers) (Glass fibers)

LIPATOVA, T.E.; BERLIN, A.A.; Prinimala uchastiye MAKSIMOVA, V.P.

Carbonium polymerization of polyester acrylates. Dokl. AN SSSR 148 no.2:353-356 Ja '63. (MIRA 16:2)

1. Institut obshchey i neorganicheskoy khimii AN Belorusskoy SSR i Institut khimicheskoy fiziki AN SSSR. Predstavleno akademikom V.N. Kondrat'yevym.
(Acrylic acid) (Carbonium compounds) (Polymerization)

SKORYNINA, I.S.; LIPATOVA, T.E.

Grafting of polystyrene on glass fibers. Dokl. AN SSSR 153 no.3:661-663 N '63. (MIRA 17:1)

1. Institut obshchey i neorganicheskoy khimii AN BSSR. Predstavleno akademikom V.A. Karginym.

L 12233-63 BDS/EWP(j)/EPR/EPF(c)/EWT(m)--AFFTC/ASD--Pa-4/
Pc-4/Pr-4--RM/WW

ACCESSION NR: AP3006001 S/0250/63/007/008/0534/0537

AUTHOR: Lipatova, T. E.; Budnikova, V. A.

TITLE: Study of the curing of soluble polymers based on polyester-acrylates

SOURCE: AN BSSR. Doklady*, v. 7, no. 8, 534-537

TOPIC TAGS: resin, polyester, polyester acrylate, oligomer, beta polymer, three dimensional polymer, film, filament, infrared spectroscopy, infrared spectrum, thermomechanical curve, thermomechanical property, MGF-2, TMGF-11, MGF-9, cross linking, deformation strain, unsaturation, molding, compression molding, property modification

ABSTRACT: The mechanism of the formation of a three-dimensional network in films and filaments of soluble polymers (β-polymers) (T. E. Lipatova, Vysokomol. soyed., 2, 1881, 1960) of polyester-methacrylate resin has been studied. Infrared spectra and thermomechanical properties of the polymers were determined. Three β-polymers were synthesized from the following oligomers: resins

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ACCESSION NR: AP3006001

MGF-9 (bis(diethylene glycol) dimethacrylate phthalate), TMGF-11 (glycerol phthalate tetramethacrylate [sic]), and MDF-2 (triethylene glycol dimethacrylate phthalate [sic] with a degree of polymerization of 2). To study the conversion of the oligomers to three-dimensional polymers, the infrared spectra of the three oligomers, β-polymers in benzene solution, films cast from the benzene solution, and the solid three-dimensional polymers were measured. The three-dimensional polymers from MGF-9 and TMGF-11 were obtained by carbonium-ion polymerization or by compression molding of their β-polymers. Owing to the low reactivity of double bonds in β-polymers from MDF-2, the solid three-dimensional structure was obtained by ultraviolet irradiation in vacuum of tacky β-polymers which had been partially cross-linked in air. From the infrared spectra of MGF-9, its β-polymer in benzene solution, and the solid three-dimensional polymer, and from data in the literature, the 1630 cm^{-1} absorption band, which is present in methyl methacrylate and absent in poly(methyl methacrylate), was selected as a measure of the degree of unsaturation of the

ACCESSION NR: AP3006001

oligomers and their polymers. The 812 cm^{-1} absorption band was used to verify the degree of unsaturation, and the 745 cm^{-1} absorption band, for quantitative determination of unsaturation by a method previously described (T. E. Lipatova, Kand. diss., FKhI im. Karpova, M. 1954). It was found that unsaturation decreases from the oligomer to the three-dimensional polymer. On conversion of the oligomer to the β-polymer and to the three-dimensional polymer, a general increase in background in the 1000—1400 cm^{-1} region was observed, suggesting that a three-dimensional network of C-C and C-O-C links is formed in the polymer. The results of infrared analysis were in good agreement with the thermomechanical data obtained. The thermomechanical curves of a polymer molded at 50C from the β-polymer of MGF-9 indicated that high deformation begins at 60—70C, increases with temperature, and reaches a maximum at 130—140C. Further heating caused a decrease in deformation, owing to network-structure formation in the polymer by the reaction of the remaining double bonds. Polymers from TMGF-11 had thermomechanical properties generally associated with polymers

L 17233-63

ACCESSION NR: AP3006001

having a considerably denser three-dimensional network. The deformation of this polymer was low, despite the residual double bonds present, owing to restricted side-chain mobility. The thermomechanical curve of the polymer from MGF-2 reveals high deformation, suggesting a weakly cross-linked three-dimensional structure. Deformation does not decrease with an increase in temperature, since the absence of double bonds prevents further cross-linking. It is concluded that by varying the molding conditions it is possible to obtain three-dimensional network structures with various degrees of cross-linking and unsaturation and thus to regulate the physicomechanical properties and chemical stability of polymers obtained from a given original polyester. Orig. art. has: 1 table and 2 figures.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN BSSR (Institute of General and Inorganic Chemistry, AN BSSR)

SUBMITTED: 15Jan63 DATE ACQ: 11Sep63 ENCL: 00

SUB CODE: CH, MA NO REF SOV: 009 OTHER: 002

Card 4/4

LIPATOVA, T.E.

Catalytic polymerization of unsaturated polyesters. Carbonium polymerization of polyesteracrylates. Plast.massy no.1:3-7 '64. (MIRA 17:6)

ACCESSION NR: AP4037287 S/0190/64/006/005/0910/0914

AUTHORS: Lipatova, T. E.; Siderko, V. M.

TITLE: Carbonium copolymerization of dimethacrylate-(bis-triethyleneglycol) phthalate with styrene

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 5, 1964, 910-914

TOPIC TAGS: carbonium copolymerization, polyesteracrylate styrene copolymerization, polyesteracrylate styrene, monomer reactivity ratio, titanium tetrachloride catalyst, copolymer unsaturation degree

ABSTRACT: The copolymerization of the commercial MGF-9 dimethacrylate-(bis-triethyleneglycol)phthalate with styrene was conducted in a dilatometer in ethyl chloride solutions at a 1.25 mole/liter summary concentration of the monomers and in the presence of 0.003 mole/liter of $TiCl_4$. Dilatometric measurements provided data on the reaction rate, while the composition of the resulting copolymers was determined by infrared spectroscopy. The copolymerization constants were calculated by the method of A. D. Abkin and S. S. Medvedev (Zh. fiz. khimii, 21, 1269, 1947), the constant r_1 for styrene was taken as 0.15 and the r_2 for MGF-9 as 0.75. The

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ACCESSION NR: AP4037287

calculations were conducted under the assumption that only one double bond was involved in the polymerization of MGF-9. This assumption was confirmed by the bromine number determinations. It was found that at a styrene content in the initial mixture up to 70 mol.% a continuous enrichment of the copolymer in MGF-9 takes place, and that at 83 mol.% of MGF-9 in the initial mixture the composition of the copolymer is the same as that of the mixture. The data on the initial rates of copolymerization showed that a small addition of MGF-9 had a markedly depressing effect on the polymerization of styrene. This indicates a preferential formation of complexes between $TiCl_4$ and MGF-9, with styrene taking practically no part in the initiation of the polymerization reaction. Up to 45 mol.% of MGF-9, no unsaturation was noted in the copolymer. The degree of unsaturation increased from this point on up to the copolymers containing 70% MGF-9, above which it began to drop. The authors express thanks to A. D. Abkin for his discussion of the results and valuable remarks, and to A. A. Berlin for his interest in the work. Orig. art. has: 4 graphs.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN SSSR (Institute of General and Inorganic Chemistry, AN SSSR)

Card 2/3 2

ACCESSION NR: AP4036725 S/0020/64/156/002/0379/0382

AUTHOR: Lipatova, T. E.; Budnikova, V. A.; Siderko, V. M.

TITLE: On the mechanism of carbonized polymerization of unsaturated polyesters

SOURCE: AN SSSR. Doklady*, v. 156, no. 2, 1964, 379-382

TOPIC TAGS: unsaturated polyester, carbonized polymerization, titanium chloride, polymer, ethyl chloride, catalyst, chemical property, styrene, copolymer, oligomer

ABSTRACT: The authors investigated the subject under the effect of a $TiCl_4$ catalyst and obtained polymers possessing valuable mechanical and chemical properties. This resulted in an investigation of the carbonized copolymerization of dimethacrylate-bis-triethylene glycol-phthalate (MFG-9) with a styrene. Polymerization was effected in a solution of carefully dried ethyl chloride at a total monomer concentration of about 1.25 moles per liter and a catalyst concentration of about 0.003 and 0.015 moles per liter at 0°C. Theoretical and experimental curves for both catalyst concentrations are presented in a figure showing the dependence of the copolymer composition on the composition of the original mixture. It is concluded that in a joint polymerization of an oligomer with a styrene in the presence of $TiCl_4$, the reactivity rate of the oligomer depends not only on the structure of the double

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ACCESSION NR: AP4036725

bond but also on the whole molecule. This structure determines the composition and structure of the oligomer complex -- the catalyst, which, in turn, determines the reactivity of unsaturated polyesters and carbonized polymerization and, consequently, the basis of all complex physico-mechanical properties of copolymers. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii. Akademii nauk BSSR (Institute of General and Inorganic Chemistry, Academy of Sciences, BSSR)

SUBMITTED: 10Jan64 DATE ACQ: 03Jun64 ENCL: 00

SUB CODE: OC NO REF SOV: 007 OTHER: 002

Card 2/2

ACCESSION NR: AP4040484 S/0190/64/006/006/1054/1059

AUTHOR: Lipatov, Yu. S.; Tsy*bul'ko, A. Ya.; Lipatova, T. E.

TITLE: Polymerization of an unsaturated ester of novolac resin

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 6, 1964, 1054-1059

TOPIC TAGS: phenol formaldehyde resin, novolac resin, modified novolac resin

ABSTRACT: A modified, unsaturated novolac resin which thermosets without curing agents has been prepared at the Institute of General and Inorganic Chemistry, Academy of Sciences, BSSR. Novolac resin 113-P-3 containing 13.36% OH groups was modified by esterification with methacryloyl chloride in pyridine to a degree of esterification of 52—56% as indicated by chemical analysis and IR spectroscopy. The modified resin solution polymerizes at 60C in the presence of benzoyl peroxide by the free-radical mechanism to form a still-unsaturated polymer. The modified resin also polymerizes with styrene and

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ACCESSION NR: AP4040484

acrylonitrile. Thermomechanical analysis and solubility tests showed that the polymers and copolymers thermoset at 120—160C to a product with a three-dimensional network structure. The modified resin also thermosets with the catalytic polymerization product of bis(triethylene glycol) phthalate methacrylate to a product with a three-dimensional network structure. Orig. art. has: 1 figure, 2 tables, and 1 formula.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN BSSR (Institute of General and Inorganic Chemistry, AN BSSR)

SUBMITTED: 05Jul63 DATE ACQ: 06Jul64 ENCL: 00

SUB CODE: MT, GC NO REF SOV: 005 OTHER: 001

Card 2/2

ACCESSION NR: AP4043792 S/0190/64/006/008/1539/1539

AUTHOR: Lipatova, T. E.; Skory*nina, I. S.

TITLE: Grafting of tridimensional polymers onto glass fiber

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 8, 1964, 1539, and insert facing p. 1409

TOPIC TAGS: glass fiber, polymer glass grafting, epoxy resin, bis-(triethylene glycol)phthalate dimethacrylate, titanium tetrachloride

ABSTRACT: A study has shown that epoxy resin or the unsaturated oligomer bis(triethylene glycol)phthalate dimethacrylate can be grafted onto $TiCl_4$-treated glass fiber. Grafting takes place on polymerization of ED-6 epoxy resin or MGF-9 bis(triethylene glycol)phthalate dimethacrylate in benezene solution in the presence of the treated fiber. The grafted ED-6 or MGF-9 is not removed even after boiling in dimethylformamide and acetone, respectively, for 24 hr. The amount of ED-6 grafted on varies from fractions of one percent to 5% of the weight of the fiber; and that of MGF-9, from 1 to 2%. Orig. art. has: 1 figure.

ASSOCIATION: none

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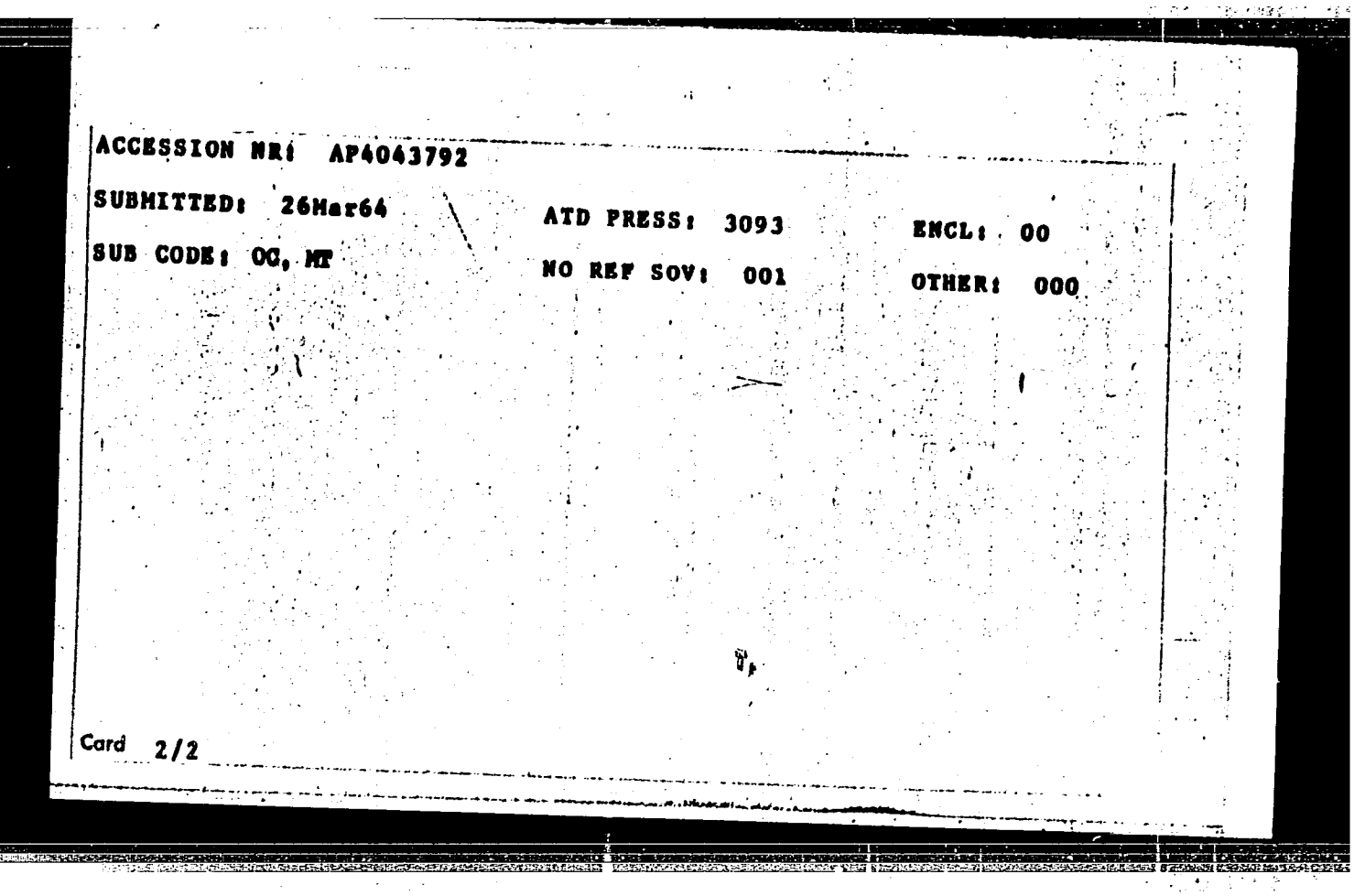

ACCESSION NR: AP4043792

SUBMITTED: 26Mar64 ATD PRESS: 3093 ENCL: 00

SUB CODE: OC, MT NO REF SOV: 001 OTHER: 000

Card 2/2

TUTAYEVA, N.L.; LIPATOVA, T.E.; LIPATOV, Yu.S.

Grafting of polyacrylate on viscose fiber. Dokl. AN BSSR 8 no.2:108-110 F '64. (MIRA 17:8)

1. Institut obshchey i neorganicheskoy khimii AN BSSR. Predstavleno akademikom AN BSSR M.M. Pavlyuchenko.

L 17821-65 EWP(e)/EWT(m)/EPF(c)/EWP(v)/EPR/EWP(j)/T/EWP(b) Pc-4/Pq-4/Pr-4/
Ps-4 RM/WH/WW

ACCESSION NR: AP4046081 S/0076/64/038/009/2252/2254

AUTHOR: Lipatova, T. E.; Rakovshchik, M. G. 15 15 B

TITLE: Investigation of the glass-titanium tetrachloride styrene system by the electron paramagnetic resonance method

SOURCE: Zhurnal fizicheskiy khimii, v. 38, no. 9, 1964, 2252-2254

TOPIC TAGS: glass titanium tetrachloride styrene, titanium tetrachloride glass system, titanium tetrachloride styrene system, glass $TiCl_4$ styrene system, electron paramagnetic resonance spectrum, EPR spectrum, paramagnetic center, polystyrene, glass bonded polystyrene, EPR signal intensification 15

ABSTRACT: The EPR spectra of the $TiCl_4$-glass, $TiCl_4$-styrene, and the glass $TiCl_4$-styrene systems were studied. The microporous glass, prepared as described by I. V. Grebenshchikov and O. S. Molchanova (Zh. obshch. khimii, 12, 588, 1942) was dried in vacuum and the $TiCl_4$ was condensed thereon under vacuum; in the ternary system the styrene was condensed onto the glass-$TiCl_4$

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a 1:2 ratio of components was used in the $TiCl_4$ -styrene system. The spectrum of the $TiCl_4$ -glass system was a singlet with line width of about 30 Oe and g-factor of about 2; on exposure to air for one hour, the intensity increased about 4 times. The spectrum of the ternary system was similar; its behavior on exposure to oxygen in shown. The $TiCl_4$ styrene system under vacuum showed no signal but on contact with oxygen a signal similar to the others was produced; its intensity increased by 100 times in a month, then started to fall. Thus the presence of paramagnetic particles on a glass surface treated with $TiCl_4$ was established. The presence of two types of paramagnetic centers was indicated: paramagnetic centers on the glass surface formed by the portion of $TiCl_4$ actually bonded to the glass and the polystyrene grafted thereon; and paramagnetic centers in the polystyrene polymer formed by the $TiCl_4$ which was desorbed from the glass surface and dissolved in the monomer. The noted effect of oxygen on the intensity of the EPR signal was unique: the intensification of the signal was contrary to all other known examples where oxygen decreased signal intensity. Orig. art. has: 2 figures.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000930020004-3"

L 17821-65
ACCESSION NR: AP4046081

ASSOCIATION: Akademiya nauk BSSR Institut obshchey i neorganicheskoy khimii (Academy of Sciences BSSR Institute of General and Inorganic Chemistry)

SUBMITTED: 06May63 ENCL: 00

SUB CODE: GC, IC NO REF SOV: 005 OTHER: 002

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L 39926-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL WW/RM

ACCESSION NR: AP4009826 S/0191/64/000/001/0003/0007

AUTHOR: Lipatova, T. E.

30
27
B

TITLE: Catalytic polymerization of unsaturated polyethers. Carbonium polymerization of polyetheracrylates

SOURCE: Plasticheskiye massy*, no. 1, 1964, 3-7

TOPIC TAGS: ionic polymerization, carbonium polymerization, polyetheracrylate polymer, beta polymer, unsaturated polyether polymer, lacquer coating, air-drying lacquer.

ABSTRACT: The carbonium polymerization of polyetheracrylates MGF-9, MDF-2 and TMGF-11, and the properties of the resultant polymers were investigated. Polymerizations were conducted in vacuum at 20C, using 0.4 mol/l. $TiCl_4$ catalyst; polymerization products were filtered and methanol washed. The three dimensional polymer remained on the filter; the beta-polymer can be precipitated from the filtrate with methanol-water mixture.

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